



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/751,301 | 01/02/2004 | David M. Giorgi | 00970.0011-US-U1 | 8801 |
| 44163 7590 07/28/2008 CYR & ASSOCIATES, P.A. 605 U.S. Highway 169 Suite 300 Plymouth, MN 55441 | | | | |
| EXAMINER | | | | |
| VAN ROY, TOD THOMAS | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 2828 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 07/28/2008 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/751,301

Applicant(s)

GIORGI ET AL.

Examiner

TOD T. VAN ROY

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 08 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 18 and 20-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18 and 20 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 8-12, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 4, 7, 13, 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments, see Remarks, filed 05/08/2008, with respect to claims 1-13 have been fully considered and are persuasive. The rejection of the claims has been withdrawn.

The examiner agrees with the applicant that Zucker does not clearly disclose the circuit to control a laser diode.

This action will subsequently be made non-final.

The indicated allowability of claims 3, 6, and 8 is withdrawn in view of the newly discovered reference(s) to Duke. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 8-12, and 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Duke et al. (US 3577017).

With respect to claims 1 and 9-12, Duke discloses a pulsed laser diode driver comprising: a slow voltage discharge stage comprising a first capacitive energy storage element (fig.1 #C2 0.0015 uF) having a first energy storage capacity and being operatively charged to a first voltage magnitude, a fast voltage discharge stage comprising a second capacitive energy storage element (fig.1 #C1 0.0002 uF) having a second energy storage capacity less than the first energy storage capacity ($C1 < C2$), and being operatively charged to a second voltage magnitude greater than the first voltage magnitude (voltage across C1 would be greater than across C2 due to the voltage drop across series resistor R2), a switch controlled circuit path (fig.1 S.C.R. switch), and a laser diode (fig.1 #10) coupled through the switch controlled circuit path to the first capacitive energy storage element for operatively receiving a discharge of energy therefrom, and to the second capacitive energy storage element for operatively receiving a discharge of energy therefrom (col.1 lines 38-45).

With respect to claim 8, Duke discloses the switch controlled circuit path comprises a first switch having a floating terminal (fig.1 S.C.R.) and a second switch having a grounded terminal (fig.1 #8, diode functions as switch below and above the turn on voltage), the floating terminal of the first switch being coupled to a first terminal of the laser diode, and the grounded terminal of the second switch being coupled to a second terminal of the laser diode (all components electrically coupled, please see previous office action for description of coupling).

With respect to claims 21-22, Duke discloses a closing switch for controllably discharging the first and second capacitive energy storage elements (fig.1 S.C.R. col.1 lines 38-45).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duke.

With respect to claims 2 and 5, Duke teaches the driving circuit outlined in the rejection to claim 1 above, including the charge storage devices to be capacitors, but does not teach the use of two separate charge sources and the noted coupling (all elements coupled). It would have been obvious to one of ordinary skill in the art at the

time of the invention to use multiple charge sources, instead of the single source of Duke, in order to allow for a higher degree of control over the amount of voltage applied to each part of the driving circuit.

With respect to claim 3, Duke further teaches the first switch has a grounded terminal (fig.1 S.C.R.).

With respect to claim 6, Duke further teaches both of the switches have grounded terminals (fig.1 S.C.R. and #8).

Allowable Subject Matter

Claims 4, 7, 13 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TOD T. VAN ROY whose telephone number is (571)272-8447. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on (571)272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2828

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/TVR/

/Minsun Harvey/
Supervisory Patent Examiner, Art Unit 2828